

Figure 1 shows a functional block diagram of the gemstone grading system in accordance with the present invention;

Figure 2 shows a front view of the imaging apparatus of the gemstone grading system shown in Figure 1;

5 Figure 3 shows a front sectional view of the interior of the imaging apparatus of the gemstone grading system shown in Figure 1;

Figure 4 shows a top view of the imaging apparatus of the gemstone grading system shown in Figure 1;

10 Figure 5 shows a top view of the bottom light assembly of the imaging apparatus of the gemstone grading system shown in Figure 1;

Figure 6 is a schematic diagram of the electrical control circuit of the imaging apparatus shown in Figure 1;

Figure 7 is a side view of the imaging apparatus in a first imaging position;

15 Figure 8 is a side view of the imaging apparatus in a second imaging position;

Figure 9 is a side view of the imaging apparatus in a third imaging position;

<sup>A</sup>  
Figure 10<sup>A</sup> is a logical flow diagram of the cut analysis method of operating the imaging apparatus of Figure 1;

<sup>B</sup>  
Figure 10<sup>B</sup> is a continuation of the logical flow diagram of Figure 10 showing the color analysis method of operating the imaging apparatus of Figure 1; and

<sup>C</sup>  
25 Figure 10<sup>C</sup> is a continuation of the logical flow diagram of Figure 10 the brilliance, scintillation, flaw and polish analysis method of operating the imaging apparatus of Figure 1.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

30 An automated gemstone grading and data management system is